CALIFORNIA BIODIVERSITY COUNCIL
STATEWIDE COASTAL RESOURCES MEETING

NOVEMBER 8 & 9, 2000
SANTA BARBARA, CALIFORNIA

MINUTES

Members Present:
Mary D. Nichols (Chair), Resources Agency
Bill Ahern, California Coastal Conservancy
Eileen Ansari, Southern California Association of Governments
Doug Balmain, San Joaquin Valley Regional Association of County Supervisors
Louis Blumberg, California Department of Forestry and Fire Protection
William Douros, Monterey Bay National Marine Sanctuary
Alexander Glazer, University of California
Susan Hansch, California Coastal Commission
Jerry Harmon, San Diego Association of Governments
Bob Haussler, California Energy Commission
Winston Hickox, California Environmental Protection Agency
Robert Hight, California Department of Fish and Game
Dale Hoffman-Floerke, California Department of Water Resources
Nancy Huffman, Northern California Counties Association
Colonel David Linnebur, US Marine Corps
Deborah Maxwell, USGS, Western Ecological Research Center
Frank Michny, Bureau of Reclamation
Gerald H. Miller, California Department of Food and Agriculture
Larry Myers, Native American Heritage Commission
Christine Nota, USDA Forest Service
Mike Pool, Bureau of Land Management
H. Wes Pratt, California Conservation Corps
Carl Rountree, Bureau of Land Management
Gilberto Ruiz, Southern California Association of Governments
Jim Shevock, National Park Service
Michael Shulters, US Geological Survey
Michael Spear, US Fish and Wildlife Service
Paul Thayer, State Lands Commission
Andrea Tuttle, California Department of Forestry and Fire Protection
William Vance, California Environmental Protection Agency
Gary Winters, California Department of Transportation
Al Wright, California Wildlife Conservation Board
Mary Wright, California Department of Parks and Recreation
Darryl Young, Department of Conservation
Sam Ziegler, US Environmental Protection Agency

Meeting welcome by Resources Agency Secretary Mary Nichols with acting co-chair Brian Baird, California Ocean Program Manager.

Council Announcements

Secretary Nichols first announced that Al Wright has been selected at the Executive Director for the Wildlife Conservation Board. Secretary Nichols welcomed the new Bureau of Land Management State Director, Mike Pool. Ms. Nichols also recognized Bud Laurent, Director of the Santa Barbara-based Community Environmental Council, for his continued support of the Biodiversity Council. Finally, the Secretary reminded Council members that annual dues should be paid as soon as possible.

- Bill Stewart, Chief of the CDF Fire and Resource Assessment Program, announced the presence of four impressive maps hanging at various locations in the meeting room. This conference should bring out the connections between the land and the ocean; hopefully, these maps convey that idea. The maps split California into four chunks moving from the North Coast, the San Francisco Bay, the Central Coast, and the South Coast. The four maps depict landuse types (reserve, commodity, recreation, agriculture, and urban) throughout the state and how that translates into potential runoff affecting coastal zones. There are not specific landuse categories on the coast or in the ocean; however, this enforces the idea that terrestrial activities do in fact have a major impact on coastal resources.
- Mike Shulters, USGS Director's Representative, noted that the Council members received packets distributed by USGS on the topic of tsunamis and the warning systems to protect citizens against them.
- Mary Wright, Department of Parks & Recreation, reported a multi-agency symposium (State Parks, The Nature Conservancy, the USGS, and the Wilderness Coalition) held last week. This is the first statewide gathering on connectivity. The purpose was to gather and map statewide data on important linkage needs in the bioregions. Roughly 300 linkages were mapped and background data was gathered for each during the symposium. Regional follow-up is expected to further refine the data.
- Bill Ahern, Executive Officer of the California Coastal Conservancy, reported on their efforts to conserve two landscapes in the area. The Santa Clara River Parkway Program is a cooperative project looking to preserve and project the entire lower region of the Santa Clara River. The other effort is the Gaviota Coast Protection Program. The Coastal Conservancy recently helped to fund the first acquisition in this sensitive spot.
- Chris Nota, USDA Forest Service, reported on the National Fire Plan. Congress and the current administration chose to invest heavily in fire protection, thus creating a great opportunity for interagency work. The Forest Service is working very closely with BLM, CDF, and the National Park Service to pull the Fire Alliance back together in order to coordinate activities.

Executive Committee Report

Carl Rountree, CBC Executive Committee Chair, began by explaining the state of the revision process for the Council's future direction and work plan summary. At the September meeting in Rohnert Park, Council members gathered to recommend changes for the work plan and work plan summary. Staff has since revised the summary into the document presented today. Mr. Rountree explained each of the decision points and asked the Council members for their comments. Bill Douros (Monterey Bay National Marine Sanctuary) suggested that we increase the Council's focus on coastal issues; perhaps every 5th meeting could be dedicated to the

subject. Mr. Douros volunteered to help organize a regional meeting in Monterey in 2002. Eileen Ansari (Southern California Association of Governments) offered to help with the planning of the June 21, 2001 CBC meeting in Los Angeles. Additionally, Nancy Huffman emphasized the importance of the CBC Help Desk as an avenue to share information between agencies. This phone number should allow folks to find the help that they need.

Meeting Introduction

Brian Baird first expressed his excitement at the program scheduled for the day. The program will consist of two parts. The morning will consist of discussion concerning coastal issues and the land-sea interface. Specifically, the first session will focus on coastal access, shoreline erosion and wetland recovery. The second part of the program will deal with off shore issues, particularly the management of marine resources. Mr. Baird then gave a short history of the Agency's Ocean Program effort. Pursuant to the California Ocean Resources Management Act, Secretary Nichols is the lead state official on these issues. The Ocean Program oversees a variety of multi-agency efforts to promote ocean and coastal stewardship, economic sustainability, and research through governance. Brian had a few comments to make about the concept as a whole. First, ocean stewardship must recognize the links between the land and sea. There are 34 million people in this state, 80% of which live within 30 miles of the coast. Second, marine resources greatly add to California's economy. In 1992, seven ocean industries contributed over 17 billion dollars to the state economy. Last, Brian noted that science must be the foundation of good public policy.

Forum & Field Trip Report

Rob Almy, Manager of the Santa Barbara County Water Agency, summarized the nonpoint source pollution forum that occurred the previous morning. Mr. Almy discussed the format of panelist presentations and open discussion. The first panelist, Ken Harris (State Water Resources Control Board) gave an overview of the state's nonpoint source pollution control plan. Jaime Kooser (California Coastal Commission) talked about the integration of that plan with the Coastal Act and Coastal Zones Management Act. There is an explicit recognition of the need for local energy, interest, and involvement in successful State programs. Dan Reid (Santa Barbara County Public Health Department) and Rob Almy made the second presentation and discussed the local nonpoint source pollution control efforts. Project Clean Water emphasizes local stakeholder and local multi-agency participation. The Santa Barbara County Clean Water Project is a bottom-up program driven by community interest. The local voters supported a bed tax increase to pay for programs like Project Clean Water. Bill Douros, Superintendent of the Monterey Bay National Marine Sanctuary, gave an example of his nonpoint source program developed by the Sanctuary and the participation of a variety of local agencies. Mr. Douros discussed the extremely innovative program, how it came about and the nature of the current challenges. The ensuing discussion revealed some of the differing perspectives as well as the tensions between the regulators and the regulated. The impetus for nonpoint source pollution control is coming from environmental groups and from higher regulatory agencies.

Mr. Almy next noted that the group split into two field trips, one bus heading to Carpinteria Salt Marsh and the other to Coal Oil Point. Both sites are part of the University of California Natural Reserve System. Combined, these two sites comprise two-thirds of the wetlands in the South Coast area. Additionally, both sites are great examples of well-managed wetlands in developing areas.

After the forum, Mr. Almy and the forum moderator John Jostes crafted a few observations. First, there is a dire need to move beyond traditional boundaries and into comprehensive

planning. Second, there is also a need for stakeholder involvement. Third, there is a need to avoid "we/they" relationships, as collaboration is key in these situations. Finally, there is a need for local flexibility from strict regulation. Adaptive regulation is extremely valuable in situations of this sort.

California Coastal Management Introduction

Upon returning from a brief break, the Council entered into the on-shore portion of the meeting with an introduction by Joe Bodovitz, Director of the California Environmental Trust. Mr. Bodovitz was the first Executive Director of the California Coastal Commission and the San Francisco Bay Conservation and Development Commission in addition to serving as Executive Director for the California Public Utilities Commission. Mr. Bodovitz gave an eloquent overview of how coastal management got started in California. In 1965, the San Francisco Bay Conservation and Development Commission formed to address the unregulated filling of some of the shallow areas in the San Francisco Bay. The Commission was charged to control the filling and plan what was to be done with regards to the filling and public access. The success of this group caused interest in other sensitive areas like Lake Tahoe and Southern California. Legislative remedies were largely unsuccessful. However, the initiative process was used to place Proposition 20 on the ballot in 1972. The proposition passed, thus allowing new coastal management rules and complete management plans by 1975. The key feature of this proposition was that it required development permits from the new Coastal Commission to build within 1,000 yards of the coast. The plan was completed and adopted by the legislature in 1976 as the California Coastal Act.

Mr. Bodovitz then offered an example of the early days of the Coastal Commission. These new regulations made things difficult for many organizations and Southern California Edison was no different. They wanted to build a nuclear power plant on a portion of the Marine Corps Base at Camp Pendleton. It took an act of Congress to allow Edison to the right to build the San Onofre Nuclear Power Plant. But by that time, the Coastal Act had passed and Edison was required to go through an entirely new process. During the Coastal Commission hearings, a young State Parks employee attending the meetings on his own time requested to show the group a few slides he had taken of the proposed plant site. The slides showed highly sensitive bluffs that would never hold up to the proposed construction. Mr. Bodovitz felt that this type of interest, a man to taking a day off to educate the Commission, typifies coastal management in the state of California.

Challenges at the Edge

Secretary Nichols introduced the first session of the day titled, *Challenges at the Edge*. Rick Rayburn, Chief of Resource Management for California State Parks, moderated the session and began with a few brief remarks. Rick noted that this year marks the 25th anniversary of the Coastal Plan and that arguably three of the focal points include coastal access, wetland protection, and shoreline erosion. The ensuing panel will look at how these three issues are handled in the 21st century and the inter-relationships between them.

Linda Locklin, Coastal Access Program manager for the California Coastal Commission, spoke first. The Coastal Act ensured public access to all coastal areas and required the cooperation of many additional agencies. Last year, Governor Davis augmented the Commission's budget to do the first comprehensive review of the Access Program and to prepare an Action Plan that identified a number of priorities for the state as well as a set of recommendations. Some of the high priority projects included the completion of the Coastal Trail spanning the length of the

state, prescriptive rights protection, and public use easements. Only half of Santa Barbara's shoreline is open and available to the public. Additional access issues faced by the Coastal Commission include coastal armoring, cumulative impacts, transportation, and degraded water quality.

Kim Sterrett, California Department of Boating and Waterways, spoke next about coastal erosion issues. First, he defined coastal erosion as an inevitable natural process that must be managed within acceptable limits to people; thus, urban areas are the main focus. Although 85% of the state's shorelines are erosional, Mr. Sterrett explained that there are many kinds of shorelines. Several of the associated problems include the worsening erosion due to water control practices upstream. This creates less sediment transported to the coast. That said, there are a handful of strategies available to combat this loss of sediment. First, we can do nothing; the best option in that it means our efforts are not required. Second, we can restore and nourish our beaches. Beach nourishment is an effective practice involving the addition of sand by distributing sediment from dredging and other projects. Third, we can armor the shoreline, a costly and disruptive process. The last option is to treat the coastline. The Coastal Sediment Management Work Group is now in place to advise on erosion issues and has been for roughly a year. Additionally, the department is also updating the state's Shoreline Erosion Policy.

Paul Michel covered the topic of wetland recovery. Mr. Michel runs the Wetlands Protection and Restoration Program for the US Environmental Protection Agency. The Clean Water Act's 404 program is the most effective federal tool to protect wetlands, short of outright acquisition. Wetlands are an immensely precious resource as they nurture and protect us. California, as a whole, has lost more of its wetlands than any other state and Southern California shows the state's highest rate of loss at well over 91%. Yet, dramatic degradation continues mainly due to urban runoff, other pollutant loadings, invasions of non-native species, and hydrologic modification. The 404 program is a contentious and messy process based on the permitting or dredging and filling wetlands and other waters. Permits are issued by the US Army Corps of Engineers. General permits are set up to quickly authorize small projects with minimal impacts. Individual permits are for larger projects with significant impacts. Although the Corps runs the day-to-day aspects of the program, EPA has a number of responsibilities including guidelines for issuing permits, veto authority, and shared enforcement responsibility. Only one percent of permit applications are denied.

Joan Hartmann is the Public Outreach Manager for the Southern California Wetlands Recovery Project (SCWRP). This project is a partnership among 17 federal and state agencies working with communities to restore and acquire wetlands from Point Conception to the Mexican border. The Chair of the organization is Secretary Nichols and the California Coastal Conservancy staffs the group. To date, SCWRP has found several keys to success. Overall, money for projects that has emerged from "human architecture" requires several levels of consideration. First from the agencies consideration, the promise of agency money for projects jump-started the process, the chair at the level of the Resources Secretary builds strong support, and the staff is independent and working in a congenial atmosphere. Secondly, from the public consideration, the outreach director identifies the political landscape and key actors. Additionally, the public advisory committee builds support for programs and funding. The task force has tremendous potential and promise of the Recovery Project in trying to integrate wetlands concerns into the missions of local non-profit groups. And last, from the consideration of the science community, a science panel (with staff) must be in place to develop a scientific base for discussions and work.

Rick Rayburn opened the session up for discussion among the panelists, Council and audience members.

Gilberto Ruiz first shared his experiences with public access of coastal areas in Malibu. He noticed two things. First, parking to get to public beaches is often on a private road. Second, it is challenging to distinguish the lines between public and private beaches. Is it possible to work with the City of Malibu to ensure that adequate parking is available?

- Linda Locklin replied and noted that Malibu is one of the areas that the Coastal Commission currently focuses on because to those access difficulties. The Malibu Local Coastal Program needs to be completed. In that plan, those kinds of issues will be discussed and resolved. Over the next 18 months, the plan for Malibu will be developed pursuant to the Governor's mandate.

Lee Moldaver, President of the National Audubon Society's California Chapter, first congratulated the group on a great panel. Mr. Moldaver commented on one of the field trips from the previous day. Lee traveled with the group to the Coal Oil Point Reserve. The issue of protection of coastal environmentally sensitive habitat versus the need for public access was a main focus. Mr. Moldaver requested the panelists to comment on how we can work together on public and private lands and how the Biodiversity Council can help resolve these issues.

- Paul Michel answered first by stating that clearly the tension in this area will increase, but that we need to err on the side of being overly protective where the habitat concerns are greatest. Where there is public access, we need to make those the most wonderful places they can be and accommodate the traffic. However, where we have critical habitat needs we do need to protect them viciously.
- Linda Locklin added that this is an issue that both the Coastal Commission and local governments have been grappling with. It will get more difficult as time goes on, however, I wholly agree that Paul is correct in his thoughts that we do need to do the best we can for those critical areas and resources. Additionally, we need to ensure that future scientific research is directed to this very specific issue.
- Joan Hartmann mentioned the Deveroux Slough and Carpinteria Salt Marsh are polar opposites in this regard. Southern California coastal counties have a population that's greater than the 15 smallest states in the country. We have a duty given the diversity of our population to try and use our natural habitat to educate people. These problems can be reconciled with good design.
- Rick Rayburn noted that it's not a question of will there be development, but rather the questions of where and how much are the critical ones.

Bud Laurent, director of the Community Environmental Council, asked the federal and state members, "Whatever happened to the 'No Net Loss' policy? Is there a problem with the biological efficacy of trading natural wetlands for constructed or repaired wetlands?"

- Paul Michel commented that we need to be careful about setting precedents. This situation is a 'Catch-22,' sometimes the precedents come back and bite you, yet at other times they allow flexibility. It is the EPA's policy to replace wetlands in-kind; however, there are several cases in which that did not occur. Truly, the necessary factor here is sound science.
- Joan Hartmann noted that contradictions at one level can be resolved if you approach the situation from another level. This flexibility shows that you are addressing the urgent need but you still need to have good science in place to do that. At this point, the information is out there, but it has not been integrated or coordinated.

- Paul Michel next addressed the No-Net-Loss question. This is a very frustrating area for all involved. Through mitigation requirements, the EPA hopes to comply with this particular policy. However, without sufficient follow-up or monitoring and assessment programs in place, it is rather impossible to see results. Again, in this case, it is important to err on the conservative side and Mr. Michel noted that he always argues for higher mitigation ratios.

Steve Aceti, Director of the California Coastal Coalition, made a few brief comments as well. Kim Sterrett had mentioned AB 64 and the Public Beach Restoration Program. The Coalition sponsored that bill and Mr. Aceti wanted to point out an important aspect. AB 64 includes a study by the Department of Boating and Waterways and the Coastal Conservancy to look at ways of restoring the natural sediment supply. Additionally, the study will look at ways to remove or modify existing structures that interfere with littoral transport of sediment up and down the coast.

Secretary Nichols closed the session by thanking the panelists for a rich discussion condensing very complicated issues into a manageable format.

Channel Islands and Marine Protected Areas

Gary Davis, Chief Scientist for the Channel Islands National Park, gave an eloquent introduction to the Channel Islands National Marine Sanctuary and to the afternoon session on marine protected areas. There are eight islands off the coast of California and Mr. Davis focused on the four northern islands and one of the southern islands. Of these five islands, two are very small, one is of a medium size, and the remaining two are rather large. This combination allows us to see not only the effects of habitat fragmentation; but also, the larger islands may show us what the California coast looked like 200 years ago. This allows for the study of different sized communities and structures of plants and animals. A fair amount of the animals on the islands have been isolated on these islands for millions of years; there is a very high degree of endemism. Roughly ten percent of the plants on these islands are found nowhere else in the world. However, things are missing from these islands as well. Bald eagles used to pepper the Channel Islands. In the 1950s, the populations crashed due to things like the introduction of feral pigs and DDT into the marine food chain.

These islands have a variety of coastal systems from sand dunes, creek, marshes and some of the best rocky platforms in North America. Highly productive marine ecosystems are due to the mixing of the north and south currents, the combination of both warm and cool water, and nutrient upwelling. Elephant seals, pinnepeds, and other wildlife find a safe haven from the "people pressures" of Southern California. However, several species of fish and mollusks are in decline. These protected areas in the Channel Islands act as controls for research on declining populations. These are special places that must be used to learn how to conserve the marine ecosystem.

Michael Eng with the US Institute for Environmental Dispute Resolution moderated the afternoon session and first introduced his goals for the session. Mr. Eng aimed to describe the various processes for marine protection underway in California using the Channel Islands Marine Protected Area process as an example. Mr. Eng also hoped to provide a better understanding of some of the different perspectives on the use of marine protected areas as tools for management. To that end, Michael provided a summary on marine managed areas processes and activities in California. He covered the National Center for Ecological Analysis and Synthesis, State Interagency Marine Managed Areas Workgroup, AB 993 (1999): Marine

Life Protection Act, Channel Islands Marine Reserves Working Group, AB 2800 (2000): Marine Managed Areas Improvement Act, President's Executive Order on Marine Protected Areas, Communication Partnership for Science and the Sea, Pacific Fisheries Management Council, and the National Marine Sanctuaries and National Parks: Revision of Management Plans. Mr. Eng then introduced the panelists for their presentations as follows:

Warner Chabot works with the Center for Marine Conservation. The Center is the nation's largest group devoted exclusively to ocean conservation issues and is comprised of scientists, policy analysts, lawyers, and grass-roots activists. They focus on fish, marine wildlife, ecosystems, and pollution. The goals of the organization are to reduce the rate of removal of living resources and eventually reach a sustainable level. The Center for Marine Conservation works to reduce the rate of pollution going into the ocean, specifically nonpoint source pollution. Additionally, they try to protect habitat, increase monitoring, and promote marine research.

Matt Pickett is the Superintendent of the Channel Islands National Marine Sanctuary and described his role in that organization. The primary mandate of the Sanctuary is marine resource protection and their boundaries circle the islands for six miles in any direction. Generally, a sanctuary model is that of balancing multiple uses in the environment with resource protection. The Channel Islands Sanctuary is involved in the Marine Reserve Working Group (MRWG) process to meet the ecosystem protection mandate and facilitate the state role in meeting their mandates from the Marine Life Protection Act.

Patty Wolf, Marine Regional Manager for the Department of Fish and Game, spoke next. The Marine Region is responsible for protecting, conserving & managing California's marine resources and fisheries inside state waters, which extend several miles offshore. In addition, the Region also manages offshore fisheries with the other coastal states as part of the Pacific Fisheries Management Council. Additionally, the Department is involved in the Marine Life Protection Act. This act focuses on ensuring conservation and sustainable use of California's marine resources, conserving health and diversity of ecosystems, protecting habitat, and facilitating long-term economic, recreational and social benefits. The protection act requires that they simultaneous minimize adverse impacts on coastal communities and local economies. The act directs the department to conduct resource management and fisheries management in a new way. Much of the management authority is deferred to the Fish and Game Commission that traditionally rested with the California legislature. The protection act also emphasizes involving all interested parties in a collaborative and cooperative approach. These provisions of the act are very consistent with the work at a local scale by the Channel Islands MRWG.

Bruce Steele provided his insights into the process as a local commercial fisherman. Bruce sits on the Sanctuary Advisory Council and represents both sport and commercial fishing interests. He noted that the fisherman came willingly to the process, as they believe in the value and uniqueness of the area and the need to protect it. Additionally, the fisherman can offer some wise advise from the tens of thousands of hours they spend out in the ocean. Bruce noted that his participation in the process has been very positive and that he is happy to voice the concerns of the fisherman and work to solve the problems jointly.

Moderator, Michael Eng, then asked a few direct questions of the panelists. First, he asked Patty Wolf if she could expand on some of her opening remarks and to help us understand how the efforts of the Channel Islands Marine Reserve process are related to the various other marine managed processes underway across the state. Patty stated that the Channel Islands MRWG process is new and experimental and farther ahead than any other project of its kind. They are trying to shortcut conflict by taking cooperation and an ecosystem approach that is

adaptive and science-based. The Working Group process very closely relates to the other processes described earlier in terms of concept. Many of these processes have similar goals and objectives as they relate to preserving ecosystem biodiversity, sustainable resource use, and habitat protection. They all take a very broad, ecosystem view and adopt an ecosystem approach to management. Each process actively involves the community, public, a broad range of interest groups, and relevant agencies.

Mr. Eng asked Matt Pickett what he sees as the greatest challenges in trying to conduct this type of process to establish marine protected areas that are both science-based as well as stakeholder- and community-based efforts. Matt noted that Patty Wolf touched on one of the challenges - trying to integrate legislation and the new legislation that comes out. It's really an adaptive process to integrate these new strategies that come out. Another challenge is the willingness of the community and the agencies to make decisions based on the best available science. It is very difficult to get all of the necessary information and there will always be more research to be conducted. Yet another challenge is communication between the science community and the stakeholder community. It is difficult and yet necessary to figure out a common language in order to share the vast knowledge held by each. A final challenge is to provide the necessary staff and financial resources to see this project all the way through.

To further these questions, Mr. Eng asked Mr. Chabot to comment on the meaning of a "science-based process." Warner replied that the most logical explanation is an effort to try and provide the best available science to the decision-makers that are trying to create a marine reserve. The whole marine reserve movement has been a dramatic shift among the scientific community, ocean managers in addition to sport and commercial fishermen, which have all become advocates of the process. The idea of creating a marine reserve for protecting, restoring, and replenishing fisheries means you need to find the most productive places to fish. So even though this is a "science-based process" you need to talk to the fisherman to find those hyper-productive fishing areas. Additionally, one of the main problems is that we don't have good science as it relates to the ocean. We have better maps of the dark side of the moon than the ocean floor off our coast. One of the dilemmas with ocean science is that in the last twenty years, the science and technology available to the private sector expanded dramatically. However, the public managers have not kept up the pace. To date, the percentage of the federal science budget for oceans is only three percent, whereas twenty years ago it was seven percent. The amount of science that our nation applies to the ocean has declined over the last twenty years while the extraction of resources has increased. Now public and private managers are realizing that precautionary approaches are appropriate until we get better science.

Mr. Eng noted that a few of the principles goals associated with a marine reserve including the protection of ecosystem biodiversity and also the protection of sustainable fisheries. And yet, marine reserve processes have not done a good job of integrating that with existing marine fisheries planning provisions. Mr. Eng asked panelist Bruce Steele, "When establishing marine reserves, how can, and to what extent should, those efforts be integrated with other state fisheries management planning provisions." Bruce noted that this is the single most difficult thing to deal with right now. It is a question of preservation versus conservation. The existing data show that more and bigger reserves are best, but a fisherman is concerned with to what degree does that affect productivity and recruitment within reserves and how does it affect what goes on outside reserves. That question has not been answered satisfactorily anywhere in the world.

Additionally, Mr. Eng stated that the Department of Fish and Game is pursuing this dual goal of protecting ecosystem biodiversity and sustainable fisheries. Mr. Eng asked Patty Wolf, "How do

you see the integration of establishing no-take marine reserves with the integration of fisheries management efforts?" Patty first noted that this is a very important part of the management decisions as well as a big challenge. Closing areas has been a traditional fisheries management approach for a long time, but it was designed to protect specific, situational resources or habitat. Patty expected that, at least with the Channel Islands, we need to integrate the reserves that are established into the different fishery management approaches. Patty noted that she has seen several concerns emerge about fisheries relative to this process. The Channel Islands MRWG science panel makes it clear that for reserves to serve both ecosystem and fishery management purposes, there needs to not be an increase in fishery efforts outside of the reserves.

In these kinds of stakeholder- or consensus-based processes, a huge effort is extended in trying to reach agreement between a variety of different interest groups. Michael Eng asked Matt Pickett, "What strategies can be used to help agencies be able to keep the commitments made during these community-based marine protected area planning processes. Specifically, please tailor your comments to enforcement, research, monitoring, education, and ongoing community involvement given the uncertainties you face as a manager regarding funding and staffing requirements for an unspecified length of time." Matt noted that this is an excellent question that comes up in various circles. It is really an issue of government's funding cycle. Mr. Pickett said, specifically, "How can we make a commitment five years out, say for enforcement, when I don't even know my budget for the year? There is no easy solution, however, there are things like MOUs where agencies agree to work together. This shows a commitment on the management level that this is a priority." MOUs and MOAs could be a 'semi-solution' to this problem. Additionally, it is important to make sure that the community stays involved and interested. This puts pressure on both the site level and the national level to ensure that the issue just doesn't fade away.

Patty Wolf added that the Department of Fish and Game has used agreements of that nature in other places. Specifically, they have an enforcement agreement with the Monterey Bay National Marine Sanctuary. It is important because we know we're going to want to monitor and evaluate these reserves, in addition to learning from them. Thus, we need to coordinate protocols for research in monitoring, evaluation, and data management. Patty reinforced the idea that engaging the community as much as possible in all aspects of the reserve planning and its implementation really helps.

Mr. Eng addressed the panelist as a whole and asked "What would be your most important advice to another member of your own organization who is considering participating in a future marine protected area designation process?"

- Warner Chabot's advice would be to organize a major fund-raising event and get a submarine out to the Channel Islands. We suffered through a period of neglect with regard to funding over the last decade. The budget has declined while the magnitude of the responsibilities has increased dramatically. In the past two years, we have passed more laws than in the last ten years. There is an enormous responsibility ahead of us and we need the resources to run this appropriately. It will take money and it will take an increased awareness of what is necessary within the agencies and the legislators.
- Matt Pickett would advise to set clear goals and a clear timeline for the process. In the beginning, give the group a defined deadline to work towards. His second piece of advice would be to make it a completely transparent process and make sure the doors are *always* open to everyone.
- Patty Wolf's advice would include the previous comments in addition to a few suggestions for the Department of Fish and Game. The Department needs to review

and revise the fisheries data collection process to provide better, more useful information. Scale, specificity, accessibility, and reliability can all be improved. An upgraded level of education about the process, both internally and externally, would be very helpful. It is a steep learning curve and facilitation could solve this problem.

- Bruce Steele would advise fellow fisherman to make sure the necessary science is done adequately; if this is not being done, put all your efforts into seeing that it is done. It is vitally important to know where the fish come from, how they reproduce, how successful they are and the location of the sources and sinks. These are critical questions and generally this research is not getting done. Secondly, Bruce advised that you should hire retired scientists. In his experience, scientists were most often unavailable for discussion. He believes that the University-level structure has created an elite group of scientists.

Mr. Eng turned the session over to Secretary Nichols for open discussion. The Secretary asked the panelists, Council members, and audience members to reflect on the notions discussed and how that may relate to their daily work.

- Patty Wolf began by noting that the quality and perceived quality of the science bears directly on the strength of the management decisions. She also noted that decision makers are not always familiar with the statistical ways of evaluating information. But this link is critical and scientists need to get better at explaining what they do. On the other hand, scientists need to find a way to incorporate fishermen's observations, information and experience into their information base. It is difficult to incorporate both qualitative and quantitative data, however, it needs to be done. Possible solutions include involving fishermen in data collection and involving scientists in fishing activities to create a more collaborative approach.
- Matt Pickett noted that the Marine Reserve process is designed, not to decrease feedback from the science panel to the working group, but to isolate the science panel from political pressures. He disagreed with Bruce Steele that the scientists were unavailable in that they are intentionally isolated to free to work as a group and to come to consensus free of political pressure.
- Warner Chabot quipped that Bill Gates should invent UN-type headsets that could translate scientific language into plain English at an 8th grade or 12th grade level. On a more serious note, Warner wished that scientists could somehow be freer to talk. Scientists are terrified to move from pure science to applied science. As soon as a scientist mentions public policy his academic peers and colleagues label him as an advocate. We need to somehow create a gray zone between ivory tower academia and applying their vast knowledge to public policy.
- Alex Glazer, the Council representative for the University of California, defended the science community. He stated, "If you want to address a major societal problem like cancer, you create an institute and you wait for 25 years and you find they can't resolve the problem. It's not for lack of funding or a lack of scientists or a lack of public involvement. Some questions are intrinsically difficult and many people in cancer research have proposed solutions and advocated them as scientists. They have turned out be wrong." This is just an example because of the war on cancer, its immense visibility and its extremely long history. When you decide to establish and extensive network of marine protected areas with different objectives and you don't have a basic understanding of the entire system from primary productive to the end product, you do not have the infrastructure in science and the wrong recruitment structure in science. You expect to reach out to an academic institution and find practical solutions. Academics are not meant to answer pragmatic questions. You cannot select scientists

based on their academic qualifications and expect them to answer practical problems. Additionally, you have an incomplete set of scientists. There are many different types of questions to answer; yet the people with the right competence are unavailable. You have a subset of the correct scientists, but you don't have all of them. The reason they are so hesitant to make pragmatic statements is that they recognize they have certain shortcomings. If they come out and set themselves up as experts to the public in a field in which they have no record of accomplishments, they can have answers but certainly not definitive ones. Mr. Glazer believes we are discussing an abstract scientific community that does not exist.

- Warner Chabot replied that as a policy advocate he came down to the Channel Islands excited at the prospect of having the nearby campus stocked with marine scientists. However, Warner noted that he "can't find one of you to pick up a pen and draw out a potential design for the reserve given that you have many orders of magnitude more knowledge than anyone else does about the subject." He agreed that academia is not perfection, but there has to be some way to enable the scientific community to postulate based on incomplete data.
- Bruce Steele commented on the efforts of simple fishermen. They designed a system up and down the coast to study when urchins recruit. They spent twelve years finding that out and Bruce calls that science and data gathering. After they had the facts, they looked at the locations of the recruitment events and ran satellite telemetry pictures backwards to find out where the water mass that dumped the larvae came from. They found that the water masses came out of gyres and those gyres were responsible for the recruitment events the fishermen saw. Next, they set up a science panel with the best, local scientists they could find and the scientists could not tell them the cause of the recruitment events.

Secretary Nichols asked the group if it is possible to capture the momentum, power, and money put in to solving coastal issues and apply it to marine issues.

- Warner Chabot replied first we should try and make a few copies of Bruce Steele. There is an exciting and dynamic process here including people with a wide range of interests that have sat down and solve a very difficult dilemma. They are trying to set aside areas in the ocean with an industry that is reeling from economic downturn and pressure on all sides. The fishing industry is being asked to take another hit and do it voluntarily and constructively. People like Bruce Steele that enter into this process are rare, brave and dynamic individuals and we need more of them. The Channel Islands process is a good model and should be publicized as such.
- Tom Raftican, representing the United Anglers of Southern California, noted that the Marine Reserve Working Group is in a position to use a lot of the information that's being brought forward by the fishermen. Recreational anglers and boaters are the largest constituency group of anybody involved in this process. There are a lot of people out on the water and if you add up that information and anecdotal evidence, it is fairly clear that the fishermen know what's going on out there. The integration of this with analytical scientific knowledge is very difficult. The Channel Islands Marine Reserve Working Group is at this point now. The strength of the group will be if they can come forward with a plan that works for everybody using intrinsic tactile information acquired in the field in concert with scientific information.

George Leonard with the COMPAS Program wanted to say few words about what his group is attempting to do and how that fits in with the day's discussions. The program is a communication partnership designed precisely because of the problems that are being

discussed this afternoon. One of major problems addressed is the lack of communication between scientists and the rest of the world. The group is trying to take small, baby steps to try and change that culture. First, they are trying to create venues to bring academic scientists n close contact with the people that need the information, be it agencies, local government or stakeholders. Cross-pollination of discussion is key across those groups. Additionally, the group is actively teaching communication to academic scientists to make them less leery of interacting.

James Studarus with the Conception Coast Project has been following the Sanctuary Working Group. The Conception Coast Project is a local organization that has been involved with representation of data that is not present in the Channel Islands. The data is known but it is not laid out for the public and for the scientists. They are actively working on getting this information to GIS. James asked the panel "How can we get this better dialogue?" We need this triangle of the fishermen, the agencies, and the academic to work together

- Warner Chabot first noted that he had no easier answer. He could say that the legislation that has recently passed has created that series of processes. Over the next few years, there will be a variety of opportunities managed by the Department of Fish and Game to conduct a series of processes along the coast of California.
- Matt Pickett felt that the process itself has helped that communication gap just by meeting and interacting with all the involved parties. Getting to know people on a personal level has been both important and helpful.
- Bruce Steele stated that it's incredibly important to find the local experts that have the appropriate knowledge and are willing to share it with everyone.
- Patty Wolf offered a few observations from the MRWG process. Getting information out and getting public engagement has been their biggest challenge.

Secretary Nichols thanked the members of the panel for their participation and representing the Marine Reserve Working Group process and she wished them the best of luck. Ms. Nichols closed the meeting and reminded the group that the next meeting will take in Chico on March 14 & 15, 2001.